

IN THE ABSTRACT

Please replace the present abstract with the following:

ABSTRACT OF THE DISCLOSURE

~~An improved d~~Digital-data receiver synchronization apparatus and method is provided wherein ~~memory devices in the receiver such as phase-lock loops are provided with composite phase-frequency detectors, mutually cross-connected comparison feedback means, or both to provide robust reception of digital data signals. The apparatus and method are preferably utilized with synchronous architecture wherein a~~ A single master clock is may be used to provide frequency signals ~~to the memory devices, and also can be used with asynchronous architecture. Advantages can include~~ The apparatus and method provide fast lock-up time in moderately to severely noisy conditions, greater tolerance to noise and jitter when locked, and ~~have~~ improved tolerance to clock asymmetries.